

CLEAN AIR ACT SECTION 112(r) INSPECTION REPORT

Checkpoint Caribbean LTD

Ponce, Puerto Rico

GENERAL INFORMATION

Stationary Source	Checkpoint Caribbean LTD
Date of Inspection	March 13, 2008
USEPA Inspectors	Dwayne Harrington, USEPA – Region II (Edison, NJ) Carlos Rivera, USEPA – Region II, Caribbean Office, Enforcement Jose L. Ayala – RST 2, USEPA – Region II
Contract Auditor	Neil Mulvey, Sullivan Group (Subcontractor)
Description of Activities	<ul style="list-style-type: none">• Opening meeting with facility representative.• Program audit.• Closing meeting with facility representatives. Program audit consisted of the following activities: <ol style="list-style-type: none">1. Document review.2. Field verification.3. Personnel interviews

STATIONARY SOURCE INFORMATION

EPA Facility ID #	1000 0020 1131
Date of Latest Submission (used for RMP inspection)	Receipt Date: January 15, 2008 (First Time) Anniversary Date: January 14, 2013
Facility Location	Sabanetas Industrial Park, Lot 2B Street #1 Ponce, PR 00732-7283 Tel. (787) 844-7340
Number of Employees	<i>RMP*Submit</i> states 400 employees.

Description of Surrounding Area	The facility operates out of two main buildings located on approximately 8 acres. The facility is located in an industrial park situated in a commercial / residential area of Ponce. A park, owned by Checkpoint, is located immediately to the north of the chlorine cylinder storage area. The facility is immediately surrounded by commercial and residential populations.
Participants	<p>Participants included:</p> <p>Dwayne Harrington, USEPA – Region II, Edison, NJ Carlos Rivera, USEPA – Region II, Caribbean Office José L. Ayala, USEPA Contractor – RST2 Neil P. Mulvey, USEPA Contractor – Sullivan Group Sol L. Colón, Environmental Consultant, Checkpoint Caribbean LTD*</p> <p>* Lead representative for Checkpoint.</p>

REGISTRATION INFORMATION

Process ID #	73447 – Chemical Etching
Program Level	Program 3; reported in RMP as Program 2
Process Chemicals	Chlorine @ 30,000-lbs.
NAICS Code	334419 (Other Electronic Component Manufacturing)

GENERAL COMMENTS

Checkpoint Caribbean LTD (Checkpoint) produces electronic theft protection devices. Operations include administrative offices and manufacturing areas. Manufacturing includes the production of aluminum foil laminates which are fixed to theft protection devices. The aluminum foil laminates are printed on both sides and then etched in an acidic ferric chloride solution. The etched product is then cut into smaller sized laminate pieces and affixed to a tag for attachment to the theft protection device.

The etching process results in formation of ferrous chloride solution. The chemical process uses chlorine to regenerate ferrous chloride back to ferric chloride for re-use in the etching process. Chlorine gas is fed from 1-ton cylinders to two chlorine ejectors, one in the line to the ferric chloride receiving tank (15,000-gals.) and one in the line to the ferric chloride feed tank (15,000-gals.). The primary conversion reaction occurs in the receiving tank. Solution then flows via gravity to the feed tank for polishing. Chlorine feed rate ranges from 2,500 – 4,000-lbs. per day

The chlorine 1-ton cylinders are stored in an enclosed room located at the north end of the production building. At the time of this inspection 13 full 1-ton cylinders were located in the storage room. The maximum storage capacity is 14 cylinders. Two or three cylinders are feeding chlorine at a time. Empty chlorine cylinders are stored in a separate adjacent room. The chlorine cylinder storage rooms are vented to a scrubber system. The facility maintains two scrubber systems, one on-line while the other is back-up. Each scrubber system includes a caustic scrubber followed by a water scrubber. Chlorine detectors are located in the cylinder storage rooms, near the chlorinators, and at the scrubber vent discharge. The chlorine detectors alarm at the guardhouse and chemical plant control room at a setpoint of 1 PPM.

The facility operates 24/7. Chemical operators are responsible for the chlorine cylinder rooms and chlorine feed to the receiving and feed tanks. A shift includes two chemical operators and one supervisor. A chemist also works the day shift. Supervisors report to a process manager who reports to the plant manager. Maintenance personnel and a safety / security engineer also report to the process manager. Etcher operators are responsible for etching operations.

RMP DOCUMENTATION

Management System [40 CFR 68.15] & Registration

The January 15, 2008 RMP*Submit registration was the facility's first RMP filing. The facility representative reported that chlorine has been used on-site for approximately 20 years. This registration incorrectly indicates that the process is not subject to OSHA PSM and incorrectly lists the process as Program 2. Since the facility handles greater than 1,500-lbs. of chlorine and does not qualify for PSM exemptions, the facility is subject to OSHA's PSM regulation and is therefore a RMP Program 3 facility.

The facility's environmental consultant is designated as the person with overall responsibility for implementation of the RMP program. The environmental consultant is not however an employee of Checkpoint, but rather serves as a fulltime consultant. Management did not demonstrate a good understanding of the RMP program requirements. There is no written description of RMP management responsibilities.

Hazard Assessment /68.20-68.42/

The nearest public receptor is approximately 0.25 miles from the facility. The facility utilized EPA's RMP Guidance Reference Tables to determine the Worst Case and Alternative Release OCAs. The facility calculated the impacted population(s) using US Census Bureau persons per square mile data for Ponce, rather than census block data, which resulted in a value approximately 24% of the value obtained using census block data.

The facility must revise their OCA calculations using current census block data.

Process Safety Information (PSI) /40 CFR 68.65/

PSI available for review included:

- Facility site plan
- MSDS for chlorine
- Process flow diagram
- Process chemistry
- Maximum intended inventory

PSI not available for review included:

- Piping and instrument diagrams (P&IDs) of the chlorine process
- Description of safe upper and lower limits for key operating parameters
- An evaluation of the consequences of deviating from the safe operating limits
- Equipment-related PSI required per §68.65(d)(1), including electrical classification, relief system design information, ventilation system design information, list of design codes and standards, and description of safety systems
- Determination that equipment complies with recognized and accepted good engineering practices
- Materials of construction

Process Hazard Analysis (PHA) /40 CFR 68.67/

There was no record of a completed PHA study.

Standard Operating Procedures (SOPs) [40 CFR 68.69]

The following written operating procedures were available for review:

- SOP-ET-003, 7/19/01 – Standard Operating Procedure for Process, Maintenance, and Cleaning of the Scrubber and Tank Vent Control System
- TA-ETC-P003; 9/14/07 – Procedures for Chlorine Cylinder Installation
- TA-ETC-W046; 12/7/07 – Instruction for the Utilization of Chlorine B Kits

Other operating procedures included start-up and shutdown of the etching machines. The written procedures were detailed and provide step-by-step instructions. There was no written operating procedure for operation of the chlorine treatment process (i.e., receiving and feed tanks). Some of the SOPs were not reviewed and certified annually, including SOP-ET-003.

Training [40 CFR 68.71]

Records of operator training included:

- Chlorine Management - record of training provided by chlorine supplier on 1/24/08 – covered chlorine management; Supervisor attended; included sign-in sheets.
- Chlorine B Kit Training – included review of SOP # TA-ETC-W046 (Instruction for the Utilization of Chlorine B Kits); included attendance sheets.
- SCBA Training – schedule of training completed in 2007 and scheduled for 2008; includes attendance sheet.

There was no record of operator training on the following written operating procedures:

- SOP-ET-003 – Standard Operating Procedure for Process, Maintenance, and Cleaning of the Scrubber and Tank Vent Control System
- TA-ETC-P003 – Procedures for Chlorine Cylinder Installation

There was no documentation confirming operator understanding of training received.

Mechanical Integrity [40 CFR 68.73]

The facility uses an electronic work order system to schedule and document completion of equipment maintenance. Maintenance records reviewed included:

- Monthly maintenance of scrubbers
- Quarterly calibration of chlorine sensors

There were no records of inspections and test on:

- Chlorine transfer lines and valves
- Receiving and feed tanks
- Chlorinators

Management of Change (MOC) [40 CFR 68.75] & Pre-Startup Review (PSR) [40 CFR 68.77]

No written MOC or PSR procedures were available for review. The facility reported that Checkpoint does utilize a capital appropriations procedure when requesting funds for equipment changes, explaining how that procedure may address some of the MOC requirements.

Compliance Audits [40 CFR 68.79]

There was no record of any RMP compliance audits.

Incident Investigation [40 CFR 68.81]

There was no written incident investigation procedure available for review. The facility reported that there have been no chlorine releases in the past few years.

Employee Participation [40 CFR 68.83]

There was no record of a written Employee Participation plan.

Hot Work Permit [40 CFR 68.85]

There was no record of a written Hot Work Permit Program. The facility reported that they use a Factory Mutual Global Insurance Company form for documenting hot work, however, the form was not available for review. Documentation of 'gas tests' to determine whether flammable gases were present prior to performing hot work were available for review (reviewed forms for 12/24/07, 12/12/07, 12/11/07, 10/28/07). This form however does not satisfy the hot work requirements. The facility reported that minimal hot work is performed on or near the chlorine process.

Contractor Safety [40 CFR 68.87]

The facility does not have a written Contractor Safety Procedure. The facility reported that no outside contractors are used to work on or near the covered process.

Emergency Response [40 CFR 68.90 – 68.95]

The facility does not maintain an internal hazmat response team. The facility maintains an emergency action plan to evacuate the facility, and coordinates with the local

emergency services and LEPC to respond to and mitigate chlorine emergencies at the facility.

FACILITY TOUR

Several items noted during the facility tour include:

- ❑ The chlorine detector located in chlorine cylinder storage room is not located at the valve side of the cylinders which is the most likely location for a chlorine release or leak. **The facility must evaluate the location of the chlorine detector in the chlorine storage room and determine if early warning of a chlorine release would be improved if the chlorine detector were located on the valve side of the cylinders.**
- ❑ Only one detector is located in the chlorine cylinder storage room, which is approximately 30-ft. (length) by 12-ft. (width) by 10-ft. (height). **The facility should verify that one chlorine detector in a room of this size and chlorine inventory is sufficient to provide early warning of a chlorine release / leak.**
- ❑ A chlorine B kit was located in the chlorine cylinder storage room. However, the kit was not sealed, leading to the possibility that the kit is missing parts or tools that may be needed in the event of an emergency. **The facility must either maintain the chlorine B kit in a sealed state or otherwise ensure that all necessary parts and tools are present.**
- ❑ Pressure gauge and process instrumentation on one of the chlorinators was observed in a poor state of repair and was inoperative. **The facility must ensure that gauges and instrumentation in the chlorine process are maintained in good working order and are operative.**
- ❑ Observed that sightglasses on three of four chlorinators were clouded, making it impossible for operator to verify flow. **The facility must maintain sightglasses on the chlorinators such that they can be used for their design intent, which is to allow for visual verification of flow.**
- ❑ The facility reported that the chlorine detectors are set to alarm at the guardhouse and at the main control room. There is no alarm or indication of a potential chlorine leak at the entrance to the cylinder storage rooms. **The facility should evaluate whether the chlorine detectors should also alarm at a location near the entrance to the chlorine cylinder storage rooms, to provide warning prior to employees entering the room(s).**

FINDINGS/RECOMMENDATIONS

FINDINGS:

Registration

- ❑ The January 15, 2008 *RMP*Submit* registration incorrectly indicates that the process is not subject to OSHA PSM and incorrectly lists the process as Program 2. Since the facility handles greater than 1,500-lbs. of chlorine and does not qualify for PSM exemptions, the facility is subject to OSHA's PSM regulation and is therefore a RMP Program 3 facility. **The facility must submit a corrected RMP registration properly indicating the OSHA PSM status and Program 3 status.**

Management System [40 CFR 68.15]

- ❑ The facility's environmental consultant is designated as the person with overall responsibility for implementation of the RMP program. The environmental consultant is not however an employee of Checkpoint, but rather serves as a fulltime consultant. There is no written description of RMP management responsibilities. **The facility must develop an organization chart showing RMP management responsibilities or develop a written description of its RMP management system as required by 40 CFR 68.15(c).**

Hazard Assessment [68.20-68.42]

The facility calculated the impacted population(s) using US Census Bureau persons per square mile data for Ponce, rather than census block data, which resulted in a value approximately 24% of the value obtained using census block data. **The facility must revise their OCA calculations using current census block data.**

Process Safety Information (PSI) [40 CFR 68.65]

- ❑ As required by 40 CFR 68.65(c) and (d), the facility must develop the following PSI:
 - Piping and instrument diagrams (P&IDs) of the chlorine process
 - Description of safe upper and lower limits for key operating parameters
 - An evaluation of the consequences of deviating from the safe operating limits
 - Equipment related PSI required per §68.65(d)(1), including electrical classification, relief system design information, ventilation system design

information, list of design codes and standards, and description of safety systems

- **Determination that equipment complies with recognized and accepted good engineering practices**

Process Hazard Analysis (PHA) [40 CFR 68.67]

- ❑ **There was no record of a completed PHA study. The facility must complete a PHA study, as required by 40 CFR 68.67.**

Standard Operating Procedures (SOPs) [40 CFR 68.69]

- ❑ **As required by 40 CFR 68.69, operating procedures must be developed to ensure safe operation of all equipment and operations involving chlorine, including operation of the chlorine treatment process (i.e., receiving and feed tanks).**
- ❑ **The facility must ensure that all SOPs are reviewed and certified annually, as required by 40 CFR 68.69(c).**

Training [40 CFR 68.71]

- ❑ **There was no record of operator training on the following written operating procedures:**
 - **SOP-ET-003 – Standard Operating Procedure for Process, Maintenance, and Cleaning of the Scrubber and Tank Vent Control System**
 - **TA-ETC-P003 – Procedures for Chlorine Cylinder Installation**

The facility must ensure that operator training includes all written operating procedures related to the chlorine process, as required by 40 CFR 68.71(a)(1).

- ❑ **There was no documentation confirming operator understanding of training received. The facility must establish a means to verify operator understanding of the training received, as required by 40 CFR 68.71(c).**

Mechanical Integrity [40 CFR 68.73]

- ❑ **There were no records of inspections and test on some equipment used in the chlorine process, including**
 - **Chlorine transfer lines and valves**
 - **Receiving and feed tanks**
 - **Chlorinators**

The facility must ensure that the mechanical integrity program includes inspections and tests for all equipment used in the chlorine process, as required by 40 CFR 68.73(b).

Management of Change (MOC) [40 CFR 68.75] & Pre-Startup Review (PSR) [40 CFR 68.77]

- ❑ The facility reported that Checkpoint utilizes a capital appropriations procedure when requesting funds for equipment changes, explaining how that procedure may address some of the MOC requirements. However, there were no written MOC or PSR procedures available for review. **The facility must develop and implement a MOC procedure as required by 40 CFR 68.75.**
- ❑ **The facility must develop and implement a written PSR procedure and ensure that all changes requiring an update of process safety information are reviewed, as required by 40 CFR 68.77.**

Compliance Audits [40 CFR 68.79]

There was no record of any RMP compliance audits. **The facility must ensure that RMP compliance audits are conducted at least once every three years, as required by 40 CFR 68.79(a).**

Employee Participation [40 CFR 68.83]

- ❑ There was no record of a written Employee Participation plan. **The facility must develop and implement an Employee Participation plan as required by 40 CFR 68.83.**

Hot Work Permit [40 CFR 68.85]

- ❑ There was no record of a written Hot Work Permit Program. The facility reported that they use a Factory Mutual Global Insurance Company form for documenting hot work, however the form was not available for review. **The facility must develop a Hot Work Permit procedure addressing the requirements of 40 CFR 68.85.**

Contractor Safety [40 CFR 68.87]

The facility does not have a written Contractor Safety Procedure. **The facility must develop and implement as necessary a written Contractor Safety procedure, as required by 40 CFR 68.87.**

ADDITIONAL FINDINGS:

- ❑ The facility must evaluate the location of the chlorine detector in the chlorine storage room and determine if early warning of a chlorine release would be improved if the chlorine detector were located on the valve side of the cylinders (*40 CFR §68.65(d)(2); good engineering practices*).
- ❑ The facility must either maintain the chlorine B kit in a sealed state or otherwise ensure that all necessary parts and tools are present (*40 CFR §68.65(d)(2); good engineering practices*).
- ❑ The facility must ensure that gauges and instrumentation in the chlorine process are maintained in good working order and are operative (*40 CFR §68.65(d)(2); good engineering practices*).
- ❑ The facility must maintain sightglasses on the chlorinators such that they can be used for their design intent, which is to allow for visual verification of flow (*40 CFR §68.65(d)(2); good engineering practices*).

RECOMMENDATIONS:

- ❑ The facility should develop a written procedure for conducting incident investigations, consistent with the requirements of 40 CFR 68.81.
- ❑ The facility should evaluate whether the chlorine detectors should also alarm at a location near the entrance to the chlorine cylinder storage rooms, to provide warning prior to employees entering the room(s).
- ❑ The facility should verify that one chlorine detector in a room of the size and chlorine inventory chlorine of their cylinder storage room is sufficient to provide early warning of a chlorine release / leak.